Amendments to the claims:

Added text is underlined and deleted text is struck through.

1. (currently amended) A method for ~~determining~~ managing the ability of a network to spread information or physical traffic, said network including a number of network nodes interconnected by un-directed links, said method comprising the steps of:

mapping the topology of the network;

computing a value for link strength between the nodes;

computing an Eigenvector Centrality index for all nodes, said index based on said link strength values;

identifying nodes which are local maxima of the computed Eigenvector Centrality ~~index~~ indices as centre nodes;

~~grouping the nodes into regions surrounding each identified centre node;~~ defining one region for each centre node by assigning a role ~~to each node from its position in a region, wherein types of roles include centre nodes, region member nodes, border nodes, bridge nodes, and dangler nodes, wherein the role~~ of region member nodes in a given region ~~is assigned~~ to all nodes for which a steepest ascent link path in the topology terminates uniquely at the centre node of that region; and

~~measuring~~ managing the susceptibility of the network to spreading, said ~~measuring~~ managing based on the number of regions, the size of the regions, and how the regions are connected.

2. (currently amended) A method as claimed in claim 1, wherein computing said link strength value further comprises counting a number of different ~~types of bonds~~ media types any pair of nodes uses in their interaction, and using the number of ~~bonds~~ media types as a measure for link strength.

3. (previously presented) A method as claimed in claim 1, wherein computing said link strength value further comprises measuring the traffic between any two nodes and using the measure of traffic as a measure for link strength.

4. (currently amended) A method as claimed in claim 1, wherein computing said link strength value further comprises measuring amounts of traffic between pairs of nodes for different ~~types of bond~~ media types, dividing the amount of traffic in each ~~type of bond~~ media type with a total traffic for that ~~type of bond~~ media type, and using a sum of the resulting fractions as a measure for link strength.

5. (previously presented) A method as claimed in claim 1, further comprising organizing said link strength values into an adjacency matrix and computing the Eigenvector Centrality index as the principal eigenvector of said adjacency matrix.

6. (previously presented) A method as claimed in claim 1, further comprising assigning the role of border nodes to all that have no unique association to any one centre node.

7. (currently amended) A method as claimed in claim 1, further comprising assigning the role of bridge nodes to all ~~border~~ nodes for which a steepest ascent link path in the topology terminates at two or more centre nodes and which lie on at least one link path connecting two centre nodes.

8. (currently amended) A method as claimed in claim 1, further comprising assigning the role of dangler nodes to all ~~border~~ nodes for which a steepest ascent link path in the topology terminates at two or more centre nodes and which lie on no link path connecting two centre nodes.

9. (previously presented) A method as claimed in claim 1, further comprising preventing spreading of a virus in the network by identifying which nodes to protect.

10. (currently amended) A method as claimed in claim 1, ~~said method being adapted for improving~~ wherein said managing includes improving the network's susceptibility to spreading of information ~~within said network~~.

11. (currently amended) A method as claimed in claim 1, ~~said method being adapted~~ wherein said managing includes adapting the architecture of said network for improving robustness or security or communication efficiency ~~when planning an architecture for said network~~.

12. (currently amended) A method as claimed in claim 1, ~~said method being adapted for~~ wherein said network is a power network and said managing includes improving robustness of said network ~~when designed to be a power network~~ for power distribution.

13. (currently amended) A method as claimed in claim 1, ~~said method being adapted for~~ wherein said network is a network for distribution of goods and said managing includes planning said ~~network to be a~~ distribution ~~network for~~ of said goods.

14. (currently amended) A method as claimed in claim 1, ~~said method being adapted for~~ wherein said network is a transportation network and said managing includes planning said ~~network to be a transport network~~ transportation.

15. (previously presented) A method as claimed in claim 1, said method including a further step of selectively identifying nodes for preventing spreading of harmful information in said network.

16. (new) A method as claimed in claim 7, further comprising identifying links between nodes that are members of distinct regions as bridge links, and preventing harmful spreading of information or physical traffic by implementing protective measures at nodes chosen from at least one of the groups of centre nodes, bridge nodes and nodes directly connected to at least one bridge link.

17. (new) A method as claimed in claim 1, wherein said step of managing includes selecting at least one of said centre nodes and broadcasting information from said at least one centre node.

18. (new) A method of managing selected capabilities of a network having a plurality of network nodes interconnected by a set of undirected links, each link allowing traffic of one or more specified types, the method comprising:

(1) determining a role of nodes in the network as either a centre node, a region member node, or a border node, and each border node as either a bridge node or a dangler node, by

a) assigning link strength values to each link in the network,

b) organizing the assigned link strength values into an adjacency matrix representing the links between all pairs of nodes of the network, then computing a principle eigenvector of that adjacency matrix, the principle eigenvector providing a set of eigenvector centrality (EVC) indices representing connectedness for each node of the network,

c) identifying as centre nodes of the network nodes that correspond to a local maximum of the EVC indices, each identified centre node having an associated network region of one or more nodes,

d) identifying as region member nodes of a particular network region nodes that may be uniquely associated according to an unambiguous rule with a single centre node, the unambiguous rule being selected from (i) a distance rule in which region members are closer in

number of shortest path hops to an associated centre node than to any other centre node, or (ii) a steepest ascent rule in which region members have a steepest ascent path that will terminate at an associated centre node,

e) identifying as boundary member nodes between network regions nodes for which the selected unambiguous rule gives more than one centre node; and

(2) using the determined roles of nodes to manage any one or more of network robustness, security or efficiency, at least including control of traffic between different network regions.

19. (new) A method as claimed in claim 18, wherein assigning link strength values is selected from one of:
(i) an existence or absence of a link; (ii) a number of different types of traffic supported by that link, (iii) a total amount of traffic on that link over a given time interval, or (iv) a sum of fractions resulting from dividing an amount of traffic of each type by total traffic on the network of that same type.

20. (new) A method as claimed in claim 18, wherein those boundary member nodes that lie on a non-self-retracing path between two centre nodes are further identified as bridge nodes, and all other boundary member nodes are identified as dangler nodes, and using the determined bridge nodes to control traffic between network regions.

21. (new) A method as claimed in claim 18, wherein the network is a communications network and wherein the traffic is information traffic of one or more specified media types.

22. (new) A method of managing selected capabilities of a communications network having a plurality of network nodes interconnected by a set of undirected links, each link allowing information traffic of one or more specified media types, the method comprising:

(1) determining a role of each node in the communications network as either a centre node, a region member node, or a border node, and each border node as either a bridge node or a dangler node, by

a) assigning link strength values to each link in the network based on (i) a number of different media types supported by that link, (ii) a total amount of information traffic on that link over a given time interval, or (iii) a sum of fractions resulting from dividing an amount of information traffic of each media type by total information traffic on the network of that same media type,

b) organizing the assigned link strength values into an adjacency matrix representing the links between all pairs of nodes of the network, then computing a principle eigenvector of that adjacency matrix, the principle eigenvector providing a set of eigenvector centrality (EVC) indices representing connectedness for each node of the network,

c) identifying as a centre node of the network each node that corresponds to a local maximum of the EVC indices, each centre node having an associated network region of one or more nodes,

d) identifying as a region member node of a particular network region each node that may be uniquely associated according to an unambiguous rule with a single centre node, the unambiguous rule being selected from (i) a distance rule in which region members are closer in number of shortest path hops to an associated centre node

than to any other centre node, or (ii) a steepest ascent rule in which region members have a steepest ascent path that will terminate at an associated centre node,

e) identifying as a boundary member node between network regions each node for which the selected unambiguous rule gives more than one centre node, where the boundary member nodes that lie on a non-self-retracing path between two centre nodes are further identified as bridge nodes, and all other boundary member nodes are identified as dangler nodes; and

(2) using the determined role of each node to manage any one or more network robustness, security or communication efficiency, at least including control of spread of information through determined bridge nodes between network regions associated with the different centre nodes.